FACT SHEET

The United States Environmental Protection Agency (EPA)
Plans To Issue A
National Pollutant Discharge Elimination System (NPDES) Permit To:

The City of Dover
P.O. Box 115
Dover, ID 83825

Permit Number: ID-002769-3
Public Notice start date:
Public Notice expiration date:

EPA Proposes NPDES Permit Issuance.
EPA proposes to issue an NPDES permit to the City of Dover. The draft permit places conditions on the discharge of pollutants from the City of Dover's wastewater treatment plant to the Pend Oreille River. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged.

This Fact Sheet includes:
- information on public comment, public hearing, and appeal procedures
- a description of the current discharge and current sewage sludge (biosolids) practices
- a listing of proposed effluent limitations, schedules of compliance, and other conditions
- a map and description of the discharge location
- technical material supporting the conditions in the permit

The State of Idaho Proposes Certification.
EPA is requesting that the Idaho Department of Environmental Quality certify the NPDES permit for the City of Dover, under section 401 of the Clean Water Act. The state provided preliminary comments on the draft permit, and these comments have been incorporated into the draft permit.

Public Comment.
Persons wishing to comment on, or request a Public Hearing for, the draft permit may do so in writing by the expiration date of the Public Notice. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, EPA's regional Director for the Office of Water will make a final decision regarding permit issuance.

Persons wishing to comment on State Certification should submit written comments by the Public Notice expiration date to the Idaho Department of Environmental Quality (IDEQ) at 2110 Ironwood Parkway, Coeur d'Alene, Idaho 83814. A copy of the comments should also be submitted to EPA.

If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If comments are received, EPA will address the comments and issue the permit. The permit will become effective 30 days after the issuance date, unless a request for an evidentiary hearing is submitted within 30 days.

Documents are Available for Review.

The draft NPDES permit and related documents can be reviewed or obtained by visiting or contacting EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday (See address below). Draft permits, Fact Sheets, and other information can also be found by visiting the Region 10 website at "www.epa.gov/r10earth/water.htm."

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, OW-130
Seattle, Washington 98101
(206) 553-0523 or
1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

The Fact Sheet and draft permit are also available at:

EPA Idaho Operations Office
1435 North Orchard Street
Boise, Idaho 83706
(208) 378-5746

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I. APPLICANT

City of Dover
NPDES Permit No.: ID-002769-3

Facility Mailing Address:
P.O. Box 115
Dover, Idaho 83825

II. FACILITY INFORMATION

A. Treatment Plant Description

The City of Dover owns and operates a new facility which treats sewage collected from residential and commercial septic systems in the City. There are no significant industrial dischargers to the system. The facility currently has a design flow of 0.06 million gallons per day (mgd). During January to September 2000, the average measured daily flow rate from Outfall 001 was 0.029 mgd. The City has indicated that peak flow rates are approximately 0.047 mgd. Measured peak rates have been as high as 1.325 mgd during the past year. However, the City has indicated that the high peak flow rates were due to faulty flow measurement equipment which is being replaced.

Influent treatment consists of mechanical aeration followed by ultraviolet disinfection. The City also has the capability to provide chlorine disinfection as a back-up to the ultraviolet system. Effluent from disinfection flows via pipeline approximately one mile west to the Outfall 001 discharge to the Pend Oreille River. Approximately 80 dry pounds of sludge are removed from the aeration basin weekly. Waste Management, Inc. takes the sludge off-site for landfill disposal.

B. Background Information

The City of Dover's new wastewater treatment plant began discharging in January 2000. The facility was constructed in response to a June 16, 1998 Consent Order between the City and the State that required the City to cease land applying wastewater. This is the initial NPDES permit issuance for the facility.

The Consent Order includes effluent limits and monitoring requirements for Outfall 001 consistent with Idaho Water Quality Standards. These include effluent limits of 30 mg/l (average monthly) and 45 mg/l (average weekly) for five-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) as well as a 85 percent removal requirement for BOD_5 and TSS. The Consent Order also includes an average monthly limit of 50 cfu/100 ml and daily maximum limit of 500 cfu/100 ml for fecal coliform based on the State's previous standard for protection of primary contact recreation use. This standard has since been replaced by E. coli standards. Monitoring at Outfall 001 is required for total phosphorous, ammonia, nitrite & nitrate, and Kjeldahl nitrogen.

Appendix A provides a table summarizing recent monitoring performed by the City from August through December 2000. Overall, the facility has generally been in compliance

with the effluent limits included in the Consent Order except for TSS removal efficiency. According to the City, "pretreatment" in the septic systems causes low influent TSS levels and makes it difficult to achieve 85 percent removal. During October 2000, influent TSS levels were 16 to 42 mg/L and the removal efficiency was 79 percent. Based on a 1980 EPA guidance manual, *Design Manual: Onsite Wastewater Treatment and Disposal*, the expected TSS concentrations for septic system effluent ranges from 20 to 132 mg/L. These levels are much lower than expected for raw sewage influent. Influent BOD_5 levels are also consistent with expected septic system effluent. Finally, October 2000 daily inflows were consistently below facility average inflows and significant infiltration is not generally observed during the Fall.

A map has been included in Appendix B which shows the location of the treatment plant and the discharge location.

III. RECEIVING WATER

A. Outfall Location/Receiving Water

The treated effluent from the City of Dover's wastewater treatment facility is currently discharged from Outfall 001 to the Pend Oreille River. Outfall 001 is located below the water surface approximately one mile west of the treatment plant.

Based on USGS stream flow data collected from 1952 through 1999, the 7Q10 and 1Q10 flows for the Pend Oreille River above the confluence with the Priest River are 3,284.47 cubic feet per second (cfs) and 2,292.34 cfs. The 1Q10 flow is the one day low flow with a return period of 10 years, and the 7Q10 is the seven day low flow with a return period of 10 years.

B. Water Quality Standards

A State's water quality standards are composed of use classifications, numeric and/or narrative water quality criteria, and an anti-degradation policy. The use classification system designates the beneficial uses (such as cold water biota, contact recreation, etc.) that each water body is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary, by the State, to support the beneficial use classification of each water body. The anti-degradation policy represents a three tiered approach to maintain and protect various levels of water quality and uses.

The Idaho *Water Quality Standards and Wastewater Treatment Requirements* (IDAPA 58.01.02.101.01.) indicate that the Pend Oreille Lake to Priest River segment of the Pend Oreille River is protected for domestic water supply, agricultural water supply, cold water biota, and primary contact recreation.

The criteria that the State of Idaho has deemed necessary to protect the beneficial uses for this portion of the Pend Oreille River, and the State's anti-degradation policy are summarized in Appendix C.

C. Water Quality Limited Segment

A water quality limited segment is any waterbody, or definable portion of water body, where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards. The Pend Oreille River has been listed as water quality limited for thermal modification, sediment, and flow.

Section 303(d) of the Clean Water Act (CWA) requires States to develop a Total Maximum Daily Load (TMDL) management plan for water bodies determined to be water quality limited. A TMDL documents the amount of a pollutant a waterbody can assimilate without violating a state's water quality standards and allocates that load to known point sources and nonpoint sources.

In April 2000, the Idaho Department of Environmental Quality (IDEQ) submitted the *Clark Fork/Pend Oreille Subbasin Assessment and Total Daily Maximum Load*. This document discusses temperature, sediment, and flow in the Pend Oreille River. Temperature levels are below the maximum criteria of 22°C but have been above the daily average criteria of 19°C. Temperature TMDLs have generally been deferred by the State pending additional study of the appropriate criteria for protection of aquatic life. Total suspended sediment and turbidity levels are low and supporting designated uses - dam operations are cited as increasing bottom sediment and causing cold water biota impairment. IDEQ does not recognize flow as a pollutant and it is not addressed in the document. Overall, the Subbasin Assessment does not include a TMDL or wasteload allocations for the Pend Oreille River and there are no requirements applicable to the discharge from Outfall 001.

IV. EFFLUENT LIMITATIONS

In general, the Clean Water Act requires that the effluent limits for a particular pollutant be the more stringent of either technology-based effluent limits or water quality-based effluent limits. A technology-based effluent limit requires a minimum level of treatment for municipal point sources based on currently available treatment technologies. A water quality-based effluent limit is designed to ensure that the water quality standards of a waterbody are being met and they may be more stringent than technology-based effluent limits. For more information on deriving technology-based effluent limits and water quality-based effluent limits see Appendix D.

The following summarizes the proposed effluent limitations that are in the draft permit for Outfall 001.

1. The pH range shall be between 6.5 - 9.0 standard units.

2. For any month, the monthly average effluent concentration for BOD_5 shall not exceed 15 percent of the monthly average influent concentration. The monthly average TSS concentration shall not exceed 21 percent of the monthly average influent concentration.

3. There shall be no discharge of floating solids or visible foam, or oil and grease other than trace amounts.

4. Table 1, below, presents the proposed average monthly, average weekly, and instantaneous maximum effluent limits for BOD_5, TSS, escherichia coli (E. coli) bacteria, fecal coliform bacteria, and total residual chlorine.

TABLE 1: Monthly, Weekly and Daily Effluent Limitations
Outfall 001

Parameters	Average Monthly Limit	Average Weekly Limit	Instantaneous Maximum Limit
BOD_5	30 mg/L (15 lbs/day)	45 mg/L (23 lbs/day)	---
TSS	30 mg/L (15 lbs/day)	45 mg/L (23 lbs/day)	---
E. coli Bacteria	126 /100 ml	---	406 /100 ml
Fecal Coliform Bacteria	---	200/100 ml	---
Total Residual Chlorine[1]	0.50 mg/L	0.75 mg/L	---

[1] The total residual chlorine limits only apply when the back-up chlorination system is used.

V. MONITORING REQUIREMENTS

Section 308 of the Clean Water Act and federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and ambient data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality. The Permittee is responsible for conducting the monitoring and for reporting results on Discharge Monitoring Reports to EPA.

Table 2 presents the proposed effluent monitoring requirements for Outfall 001.

TABLE 2: City of Dover Waste Water Treatment Plant Monitoring Requirements
Outfall 001

Parameter	Sample Location	Sample Frequency	Sample Type
Flow, mgd	Effluent	Continuous	recorder
BOD_5, mg/L	Influent and effluent	1/week	8-hour composite
TSS, mg/L	Influent and effluent	1/week	8-hour composite
pH, standard units	Effluent	5/week (Monday - Friday)	grab

TABLE 2: City of Dover Waste Water Treatment Plant Monitoring Requirements Outfall 001			
Parameter	Sample Location	Sample Frequency	Sample Type
Temperature, °C	Effluent	1/week	recorder
Total Ammonia (N), mg/L	Effluent	1/month	8-hour composite
Fecal Coliform Bacteria, colonies/100 ml	Effluent	1/week	grab
E. coli Bacteria, colonies/100 ml	Effluent	5/month	grab
Total Residual Chlorine[1], mg/L	Effluent	5/week (Mon-Fri)	grab
[1] Total residual chlorine monitoring requirements only apply when the chlorination system is used.			

VI. SLUDGE (BIOSOLIDS) REQUIREMENTS

Currently, sludge from the treatment plant is removed by Waste Management, Inc. and disposed in an off-site landfill.

EPA Region 10 recently decided to separate wastewater and sludge permitting. Under the Clean Water Act (CWA), EPA has the authority to issue separate sludge-only permits for the purposes of regulating biosolids. EPA will issue a sludge-only permit to this facility at a later date, as appropriate.

Until future issuance of a sludge-only permit, any sludge management and disposal activities at the facility continue to be subject to the national sewage sludge standards at 40 CFR Part 503 and any requirements of the State's biosolids program. The Part 503 regulations are self-implementing, meaning that permittees must comply with them whether or not a permit has been issued. Therefore, the CWA does not require the facility to have a permit prior to use or disposal of biosolids.

VII. OTHER PERMIT CONDITIONS

A. Quality Assurance Plan

The federal regulation at 40 CFR 122.41(e) requires the Permittee to develop and submit a Quality Assurance Plan to ensure that the monitoring data submitted is accurate and to explain data anomalies if they occur. The Permittee is required to complete a Quality Assurance Plan within 60 days of the effective date of the final permit. The Quality Assurance Plan shall consist of standard operating procedures the Permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting.

B. Additional Permit Provisions

Sections II, III, and IV of the draft permit contain standard regulatory language that must be included in all NPDES permits. Because they are regulations, they cannot be challenged in the context of an NPDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and other general requirements.

VIII. OTHER LEGAL REQUIREMENTS

A. Endangered Species Act

The Endangered Species Act requires federal agencies to consult with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service if their actions could adversely affect any threatened or endangered species. EPA has determined that issuance of this permit will not affect any of the endangered species in the vicinity of the discharge. See Appendix E for further details.

B. State Certification

Section 401 of the Clean Water Act requires EPA to seek state certification before issuing a final permit. As a result of the certification, the state may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards.

C. Permit Expiration

This permit will expire five years from the effective date of the permit.

APPENDIX A

Summary of City of Dover Wastewater Treatment Plant Monitoring Data

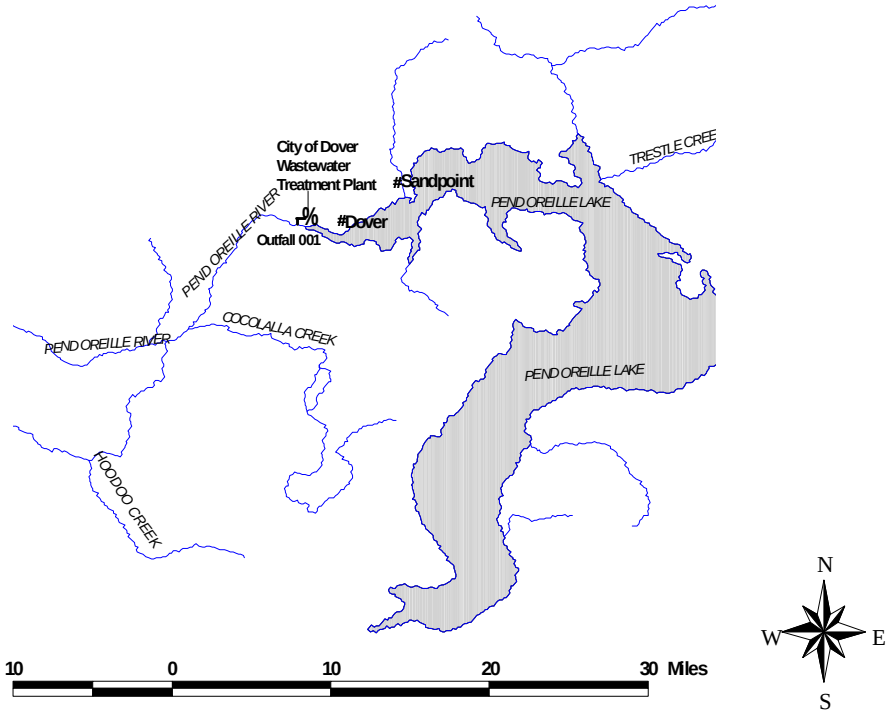
Parameter	Range of Values[1]
pH[2]	6.1 - 7.2 s.u.
BOD_5	2 - 16 mg/L
BOD_5 (% removal)	93 - 98%
TSS	3 - 16 mg/L
TSS (% removal)	79 - 96%
Fecal Coliform	1 - 24/100 ml
Temperature	8.4 - 21.0°C
Total Phosphorous	2.07 - 5.76 mg/L
Ammonia (N)	0.04 - 0.10 mg/L
Nitrite	0.88 - 20.6 mg/L
Nitrate	<0.5 mg/L
Kjeldahl Nitrogen	1.82 - 13.6 mg/L

[1] pH, BOD_5, TSS, fecal coliform, and temperature data were obtained from the City for August-December 2000. Nutrient data represent three samples collected in July, August, and October 2000.

[2] The 6.1 value for pH represents one daily measurement in September 2000. All other pH values have been 6.4 or higher.

APPENDIX B

City of Dover Wastewater Treatment Plant and Outfall 001 Locations



APPENDIX C
Water Quality Standards

(A) Water Quality Criteria

For the City of Dover, the following water quality criteria are necessary for the protection of the beneficial uses of the Pend Oreille River:

1. IDAPA 58.01.02.200.02 - Surface waters of the State shall be free from toxic substances in concentrations that impair designated beneficial uses. These substances do not include suspended sediment produces as a result of nonpoint source activities.

2. IDAPA 58.01.02.200.05 - Surface waters of the State shall be free from floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or that may impair designated beneficial uses.

3. IDAPA 58.01.02.200.06 - Excess Nutrients. Surface waters of the State shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses.

4. IDAPA 58.01.01.200.08.a - Sediment. Sediment shall not exceed quantities specified in section 250 and 252, or , in the absence of specific sediment criteria, quantities which impair designated beneficial uses. Determinations of impairment shall be based on water quality monitoring and surveillance and the information utilized as described in Subsection 350.

5. IDAPA 58.01.250.01.a - Hydrogen ion concentration (pH) values within the range of 6.5 to 9.5 standard units.

6. IDAPA 58.01.250.01.c - Total chlorine residual: (i) One hour average concentration not to exceed 19 ug/l and (ii) four day average concentration not to exceed 11 ug/L.

7. IDAPA 58.01.02.250.02 - Cold Water: waters designated for cold water aquatic life are to exhibit the following characteristics:

   i. Dissolved oxygen concentration exceeding 6 mg/l at all times.
   ii. Water temperature of 22°C or less with a maximum daily average of no greater than 19°C.
   iii. The one hour average concentration of un-ionized ammonia (as N) is not to exceed (0.43/A/B/2) mg/L, where:

   $A = 1$ if the water temperature (T) is $\geq$ 20°C, or
   $A = 10^{(0.03(20-T))}$ if T < 20°C, and

   $B = 1$ if the pH is $\geq$ 8.0, or
   $B = (1+ 10^{(7.4-pH)}) \div 1.25$ if pH is < 8.0

   iv. The four day average concentration of un-ionized ammonia (as N) is not to exceed (0.66A/B/C) mg/L, where:

$A = 1.4$ if T is $\geq$ 15°C, or
$A = 10^{(0.03(20-T))}$ if T < 15°C, and

$B = 1$ if the pH is $\geq$ 8.0, or
$B = (1+ 10^{(7.4-pH)}) \div 1.25$ if pH is < 8.0

$C = 13.5$ if pH is $\geq$ 7.7, or
$C = 20(10^{(7.7-pH)}) \div (1+ 10^{(7.4-pH)})$ if the pH is < 7.7

8. IDAPA 58.01.02.251.01. - Waters designated for primary contact recreation are not to contain E. coli bacteria significant to the public health in concentrations exceeding:

   i. A single sample of four hundred and six E. coli organisms per one hundred ml; or
   ii. A geometric mean of one hundred and twenty six E. coli organisms per one hundred ml based on a minimum of five samples taken, every three to five days, over a thirty day period.

(H) <u>Anti-Degradation Policy</u>

The State of Idaho has adopted an anti-degradation policy as part of their water quality standards. The anti-degradation policy represents a three tiered approach to maintain and protect various levels of water quality and uses. The three tiers of protection are as follows:

- Tier 1 - Protects existing uses and the level of water quality necessary to protect those uses.

- Tier 2 - Protects the level of water quality necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water in waters that are currently of higher quality than required to support these uses. Before water quality in Tier 2 waters can be lowered , there must be an anti-degradation review consisting of: (1) a finding that it is necessary to accommodate important economic or social development in the area where the waters are located (2) full satisfaction of all intergovernmental coordination and public participation provisions; and (3) assurance that the highest statutory and regulatory requirements for point sources and best management practices for nonpoint sources are achieved. Furthermore, water quality may not be lowered to less than the level necessary to fully protect the “fishable/swimmable” uses and other existing uses.

- Tier 3 - Protects the quality of outstanding national resources, such as waters of national and State parks and wildlife refuges and waters of exceptional recreational or ecological significance. There may be no new or increased discharges to these waters and no new or increased discharges to tributaries of these waters that would result in lower water quality.

The Pend Oreille River is a Tier 1 waterbody, therefore, water quality should be such that it results in no mortality and no significant growth or reproductive impairment of resident species. An NPDES permit cannot be issued that would result in the water quality criteria being violated. The draft permit contains effluent limits which ensure that the existing beneficial uses for the Pend Oreille River will be maintained.

APPENDIX D
Basis for Effluent Limitations

The Clean Water Act (CWA) requires Publicly Owned Treatment Works (POTW) to meet performance-based requirements (also known as technology-based effluent limits) based on available wastewater treatment technology. EPA may find, by analyzing the effect of an effluent discharge on the receiving water, that technology-based effluent limits are not sufficiently stringent to meet water quality standards. In such cases, EPA is required to develop more stringent water quality-based effluent limits which are designed to ensure that water quality standards are met.

Furthermore, technology-based effluent limits don't always limit every parameter that is in an effluent. For example, technology-based effluent limits for POTWs only limit five-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH. Yet effluent from a POTW may contain other pollutants such as chlorine, ammonia, or metals depending on the type of treatment system used and the service area of the POTW (i.e., industrial facilities as well as residential areas discharge into the POTW). In these cases, where technology-based effluent limits do not exist for a particular pollutant, EPA must determine if the pollutants will cause or contribute to a violation of the water quality standards for the water body. If they do, EPA is required to develop water quality-based effluent limits designed to ensure that water quality standards are met.

The proposed effluent limits reflect whichever limits (technology-based or water quality-based) are more stringent. The following explains in more detail the derivation of technology-based effluent limits and water quality-based effluent limits. Part A discusses technology-based effluent limits, Part B discusses water quality-based effluent limits, and Part C compares the technology-based effluent limits with the water quality-based effluent limits, and shows the effluent limits that are proposed in the draft permit.

A. Technology-based Effluent Limitations

The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as "secondary treatment," that all POTWs were required to meet by July 1, 1977. EPA developed "secondary treatment" regulations which are specified in the 40 CFR 133. These technology-based effluent limits apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, TSS, and pH.

40 CFR 133 provides for alternative percent removal requirements for BOD_5 and TSS where: (1) the concentration limits can consistently be met, (2) the 85 percent removal efficiency cannot be achieved, and (3) excessive infiltration/inflow is not the cause of the problem. The Fall 2000 data show some difficulty in meeting the 85 percent TSS removal requirement. Since the secondary treatment regulations did not take into account "pretreatment" in septic systems and the low influent TSS levels are not caused by infiltration, the draft permit establishes a TSS percent removal requirement of 79 percent. This represents the lowest value achieved by the City during August through November 2000. While influent BOD_5 levels are also low compared to raw sewage, the City has not had difficulty achieving the 85 percent removal requirement for BOD_5 and it is included in the draft permit.

1. 5-day Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS), concentration based limits:

BOD_5

Average Monthly Limit =	30 mg/L
Average Weekly Limit =	45 mg/L
Percent Removal Requirements =	85 %

TSS

Average Monthly Limit =	30 mg/L
Average Weekly Limit =	45 mg/L
Percent Removal Requirements =	79 %

2. 5-day Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS), mass based limits: Federal regulations at (40 CFR § 122.45 (f)) require BOD_5 and TSS limitations to be expressed as mass based limits using the design flow of the facility. The facility has a design flow of 0.06 mgd. The loading is calculated as follows: concentration X design flow X 8.34.

   BOD_5 and TSS loading, monthly avg. = 30 mg/L X 0.06 mgd X 8.34 = 15 lbs/day
   BOD_5 and TSS loading, weekly avg. = 45 mg/L X 0.06 mgd X 8.34 = 23 lbs/day

3. pH: The pH range must be between 6.0 - 9.0 standard units.

4. Total Residual Chlorine: EPA Region 10 policy is to establish limits for total residual chlorine in discharges from facilities that use chlorine disinfection. The average monthly, technology-based total residual chlorine limit for Outfall 001 is 0.5 mg/L. Based on similar systems, maintaining this level over a minimum of 15 minutes will provide adequate disinfection. The average weekly, technology-based limit for total residual chlorine has been established as 1.5 times the average monthly limit.

5. Fecal Coliform Bacteria: The Idaho *Water Quality Standards and Wastewater Treatment Requirements* (IDAPA16.01.02.420.02.b) require that fecal coliform concentrations in treated effluent not to exceed a geometric mean of 200 colonies/100ml based on no more than one week's data and a minimum of five samples.

B. Water Quality-Based Effluent Limits

1. Statutory Basis for Water Quality-Based Limits

   Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards by July 1, 1977. Discharges to state waters must also comply with limitations imposed by the state as part of its certification of NPDES permits under section 401 of the CWA.

   The NPDES regulation (40 CFR 122.44(d)(1)) implementing section 301 (b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters which are or may be discharged at a level which will cause, have the reasonable potential to cause, or

contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.

The regulations require that this evaluation be made using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The limits must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation.

2. Procedure for Deriving Water Quality-Based Effluent Limits

The first step in developing a water quality-based permit limit is to develop a wasteload allocation for the pollutant. A wasteload allocation is the concentration (or loading) of a pollutant that the Permittee may discharge without causing or contributing to an exceedance of water quality standards in the receiving water. Wasteload allocations for this permit have been determined in one of the following ways:

(a) Where the receiving water quality does not meet water quality standards, the wasteload allocation is generally based on a TMDL developed by the State. A TMDL is a determination of the amount of a pollutant from point, non-point, and natural background sources, including a margin of safety, that may be discharged to a water body without causing the water body to exceed the criterion for that pollutant. Any loading above this capacity risks violating water quality standards.

Section 303(d) of the CWA requires states to develop TMDLs for water bodies that will not meet water quality standards after the imposition of technology-based effluent limitations to ensure that these waters will come into compliance with water quality standards. The first step in establishing a TMDL is to determine the assimilative capacity of the waterbody (the loading of pollutant that a water body can assimilate without exceeding water quality standards). The next step is to divide the assimilative capacity into allocations for non-point sources (load allocations), point sources (wasteload allocations), natural background loadings, and a margin of safety to account for any uncertainties. Permit limitations are then developed for point sources that are consistent with the wasteload allocation for the point source.

The State has completed a Subbasin Assessment for the Pend Oreille River and determined that TMDLs and wasteload allocations are not currently necessary for any parameters.

(b) In some cases, a mixing zone is not authorized, either because the receiving water already exceeds the criteria, the receiving water flow is too low to provide dilution, or the state does not authorize one. In such cases, the criterion becomes the wasteload allocation. Establishing the criterion as the wasteload allocation ensures that the Permittee will not contribute to an exceedance of the criteria.

Once the wasteload allocation has been developed, the EPA applies the statistical permit limit derivation approach (if appropriate) described in Chapter 5 of the *Technical Support*

Document for Water Quality-Based Toxics Control (EPA/505/2-90-001, March 1991, hereafter referred to as the TSD) to obtain monthly average, and weekly average or daily maximum permit limits. This approach takes into account effluent variability, sampling frequency, and water quality standards.

3. Specific Water Quality-Based Effluent Limits

(a) **Toxic Substances**

The Idaho Water Quality Standards require surface waters of the state to be free from toxic substances in concentration that impair designated uses. There are no significant industrial discharges to the facility, and concentrations of priority pollutants from cities without a significant industrial component are low. Therefore, it is not anticipated that the toxicity will be a problem in the City of Dover effluent, and water quality-based effluent limits have not been proposed in the draft permit.

(b) **Floating, Suspended or Submerged Matter/Oil and Grease**

The Idaho Water Quality Standards require surface waters of the state to be free from floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions that may impair designated beneficial uses. Therefore, a narrative condition is proposed for the draft permit that states there must be no discharge of floating solids or visible foam or oil and grease other than trace amounts.

(c) **Excess Nutrients**

The Idaho Water Quality Standards require surface waters of the state be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses. The Pend Oreille River is not water quality limited for nutrients - a 1993 EPA report indicates that the river has “low to medium” amounts of nutrients. Under the very conservative assumption of a design capacity discharge (0.06 mgd) and a 7Q10 flow in the Pend Oreille River, the river provides a dilution of more than 30,000:1. Therefore, the discharge from Outfall 001 is unlikely to cause exceedances of the nutrient criteria in the river and no nutrient limits or monitoring are included in the draft permit.

(d) **Sediment/Total Suspended Solids (TSS)**

The Pend Oreille River is listed as water quality limited for sediment. However, the Subbasin Assessment indicates that the primary source of bottom sedimentation is dam operations. Fine suspended sediment and turbidity levels are low and the discharge from Outfall 001 does not contribute significantly to sediment in the river. Therefore, requirements more stringent than technology-based requirements are not necessary.

(e) **pH**

The Idaho Water Quality Standards require surface waters of the state to have a pH value within the range of 6.5 - 9.5 standard units. It is anticipated that a mixing zone will not be authorized for the water quality-based criterion for pH, therefore, this criterion must be met before the effluent is discharged to the receiving water. The technology-based effluent limits for pH are 6.0 - 9.0 standard units, and also must be met before the effluent is discharged to the receiving water. To ensure that both water quality-based requirements and technology-based requirements are met, the draft permit incorporates the lower range of the water quality standards (6.5 standard units) and the upper range of the technology-based limits (9.0 standard units).

(f) **Dissolved Oxygen (D.O.)**

The Idaho Water Quality Standards require the level of D.O. to exceed 6 mg/L at all times for water bodies that are protected for aquatic life use. The Pend Oreille River is not water quality limited for dissolved oxygen. Under the very conservative assumption of a design capacity discharge (0.06 mgd) and a 7Q10 flow in the Pend Oreille River, the river provides a dilution of more than 30,000:1. Therefore, the discharge from Outfall 001 is unlikely to cause dissolved oxygen levels below 6.0 mg/L and no dissolved oxygen limits or monitoring are included in the draft permit.

(g) **Temperature**

The Idaho Water Quality Standards require ambient water temperatures of 22ºC or less with a maximum daily average of no greater than 19ºC. The Pend Oreille River is water quality limited for thermal modification. The Subbasin Assessment indicates temperature levels have not exceeded 22ºC, although the maximum level has been 21.4ºC. The Subbasin Assessment does not include a temperature TMDL; the State is deferring temperature TMDLs until the current standards are determined to be appropriate to protect aquatic life or new standards are developed.

With the dilution provided by the river, the discharge from Outfall 001 is unlikely to contribute to exceedances of the temperature criteria. Therefore, no temperature limits are included in the draft permit. The draft permit does require temperature monitoring that can be used to establish future effluent limitations if and when a temperature TMDL is prepared.

(h) **Ammonia**

The Pend Oreille River is not water quality limited for ammonia. Falter et al. 1991 reported ammonia levels in the Pend Oreille River ranging from 0.33 mg/L to below detection limits. The water quality standards for ammonia (as N) are highly dependant on pH and temperature. A number studies have found a wide range of pH levels in the river (7.17 - 10.1) suggesting that the criteria vary significantly depending on the season. As shown in Appendix A, the discharge from Outfall 001 has low levels of unionized ammonia (0.04 to 0.10 mg/L), although the

criteria can be below these levels. Therefore, the draft permit retains the monthly ammonia monitoring requirement included in the Consent Order. These data will further define ammonia levels in the discharge and can be used to develop future permit limits, as appropriate.

(i) **Escherichia Coli (E. Coli) Bacteria**

According to the Idaho Water Quality Standards, waters designated for primary contact recreation, such as the Pend Oreille River, are not to contain E. coli bacteria significant to the public health in concentrations exceeding:

a. A single sample of four hundred and six E. coli organisms per one hundred ml; or
b. A geometric mean of one hundred and twenty six E. coli organisms per one hundred ml based on a minimum of five samples taken, every three to five days, over a thirty day period.

It is anticipated that a mixing zone will not be authorized for E. coli bacteria, therefore, the criteria must be met before the effluent is discharged to the receiving water. The proposed water quality-based effluent limits in the permit include an instantaneous maximum limit of 406 organisms/100 ml, and an average monthly limit of 126 organisms/100 ml.

(j) **Total Residual Chlorine**

The acute and chronic water quality criteria for total residual chlorine (TRC) are 0.019 ug/L and 0.011 ug/L, respectively (IDAPA 58.01.02.250.01.c.i and ii). While there are no upstream monitoring data for total residual chlorine, there are no other sources of chlorine in the vicinity of the discharge and chlorine dissipates rapidly in water. Therefore, upstream concentrations are expected to be very low. Because of the more than 30,000:1 dilution in the river, requirements more stringent than the technology-based requirements in the draft permit are not necessary.

C. Comparison of technology-based effluent limits and water quality-based effluent limits

The following table compares the technology-based effluent limits with the water quality-based effluent limits. The proposed effluent limits in the draft permit are the more stringent of the two types of limits.

Parameter	**Technology-based Effluent Limits**				**Water Quality-based Effluent Limits**				**Proposed Effluent Limits in Draft Permit**			
	AML	AWL	IML	range	AML	AWL	IML	range	AML	AWL	IML	range
BOD_5	30 mg/L	45 mg/L	---	---	---	---	---	---	30 mg/L	45 mg/L	---	---
	15 lbs/day	23 lbs/day			---	---			15 lbs/day	23 lbs/day		
BOD_5, Percent Removal	85	---	---	---	---	---	---	---	85	---	---	---
TSS	30 mg/L	45 mg/L	---	---	---	---	---	---	30 mg/L	45 mg/L	---	---
	15 lbs/day	23 lbs/day			---	---			15 lbs/day	23 lbs/day		
TSS, Percent Removal	79	---	---	---	---	---	---	---	79	---	---	---
Fecal Coliform Bacteria	---	200/100 ml	---	---	---	---	---	---	---	200/100 ml	---	---
E.coli Bacteria	---	---	---	---	126/100 ml	---	406/100 ml	---	126/100 ml	---	406/100 ml	---
Total Residual Chlorine[1]	0.50 mg/L	0.75 mg/L	---	---	---	---	---	---	0.50 mg/L	0.75 mg/L	---	---
pH	---	---	---	6.0-9.0	---	---	---	6.5-9.5	---	---	---	6.5-9.0

AML means Average Monthly Limit
AWL means Average Weekly Limit
IML means Instantaneous Maximum Limit
--- means no limit

[1] Total chlorine residual monitoring is only required when the back-up chlorine disinfection system is used.

APPENDIX E
Endangered Species Act

Section 7 of the Endangered Species Act (ESA) requires federal agencies to request a consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service regarding potential effects an action may have on listed endangered species.

In a letter dated July 24, 2000, the U.S. Fish and Wildlife Service identified the gray wolf as being a federally-listed endangered species and the bald eagle and bull trout as federally listed threatened species in the vicinity of the District's discharge. The westslope cutthroat trout was also identified as a species of concern. The National Oceanic and Atmospheric Administration, National Marine Fisheries Service did not identify any additional species within the area of the discharge.

EPA has determined that the requirements contained in the draft permit will not have an impact on the gray wolf, bald eagle, bull trout, or westslope cutthroat trout. Hunting and habitat destruction unrelated to wastewater treatment facility operations are the primary causes of the gray wolf's decline. Specific threats to bald eagles identified by the U.S. Fish and Wildlife Service include logging, overgrazing of cottonwood saplings, agricultural development, lowered food supply, pesticide contamination, hydroelectric dams, shooting, recreation-related human disturbance, use of strychnine, and possible lead poisoning. None of these threats are related to the discharge from the wastewater treatment facility. For the bulltrout and westslope cutthroat trout, the draft permit specifically ensures compliance with Idaho Water Quality Standards.